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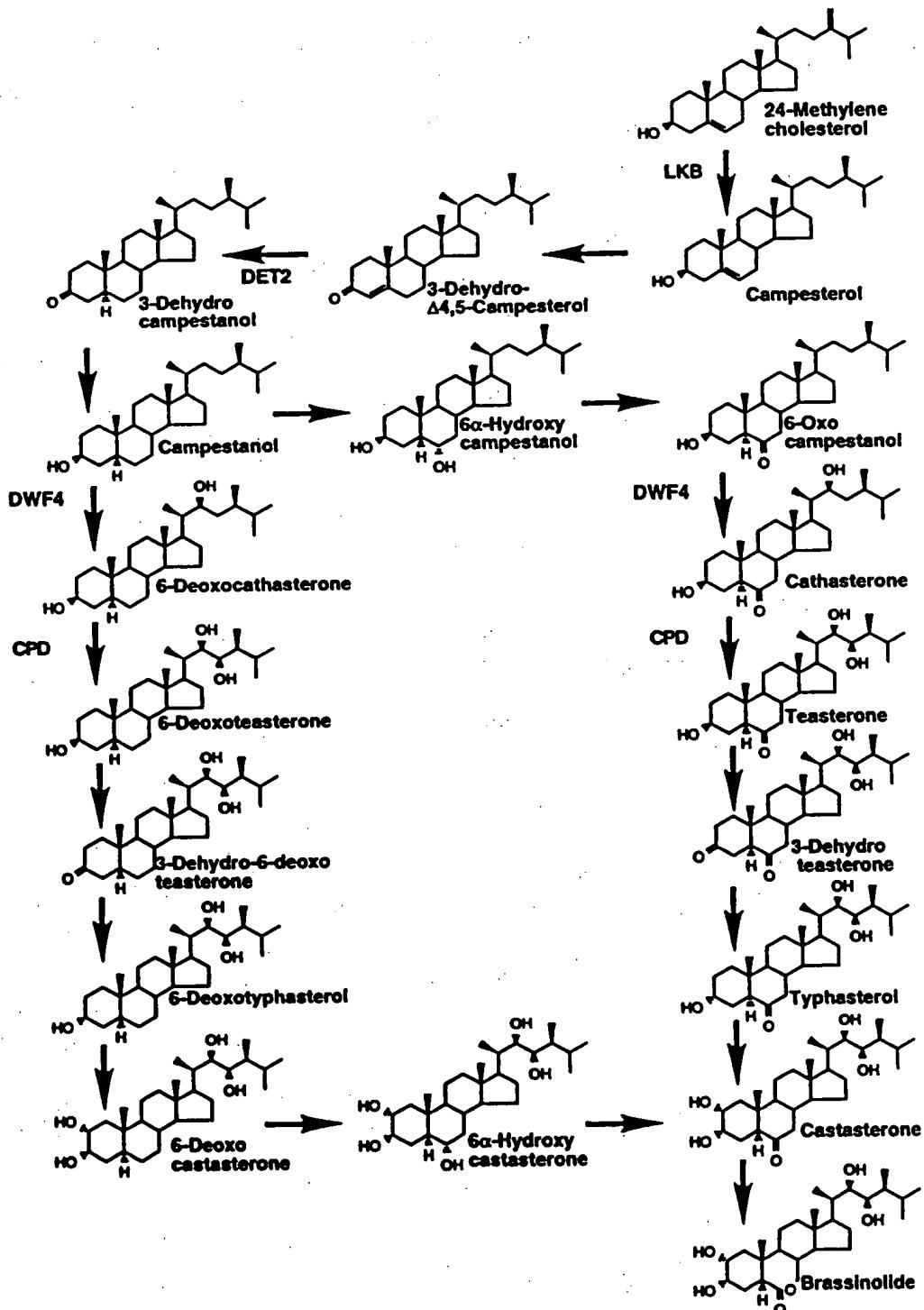
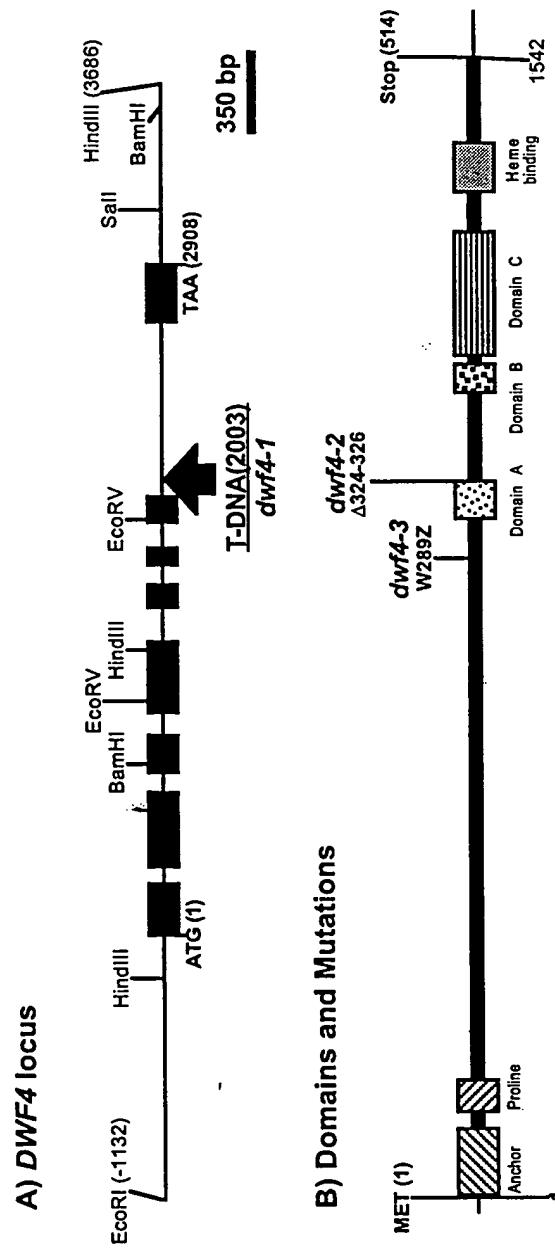


FIG. 1

*FIG. 2*





# WF4 POLYNUCLEOTIDES, POLYPEPTIDES AND USES THEREOF

Ricardo Azpiroz et al.

09/502,426 - 11696-070001

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DWF4<CYP90B>  
CPD<CYP90A>  
Tomato<CYP85>  
Cyanobacteria<CYP120>  
Maize<CYP88>  
Zebrafish<CYP26>  
Human<CYP3A3X>  
CONSENSUS

#### **ANCHOR REGION**

80            90            100            110            120            130            140            150  
 N L P P G K S G W P F I G E T I G Y L K P Y T A T T L G D F M Q Q H V S K Y G - - - K I Y R S N L F G E P T / V S A D A G L N R F I L Q N E G / R L F E C S Y P R S T / G G I G L P P G S L G L P I I G E T F O L I G A Y K T E N P E P F I D E R V A R Y G - - - S V F M T H L F G E P T / F S A D P E T N R F I V L Q N E G / K L F E C S Y P A S / C N L N L P P G T M G W P L F G E T I T E F L K L - - - - - G P S F E M K N Q R A R Y G - - - S F F K S H I L G O P T / V S M D S E L N R Y I V N V E A R L V G P V G Q P S M I D I P I P P P G D F G L P W L E T I L N F - - - - - L N D G D F G K K R Q O Q F G - - - P I F K T R L F G K N V I / F I S G A L A N R F I L F T K E O - E T F Q A T W P L S T R I L R L P P P G E M G W P L V G G M W A F L R A F K S G K P D A I L A S F V R R G F R T - G V Y R S F M F S S P T / V L V T T A E G C K Q V L M D D D - - A E V T G V P K A T V A L P L P P P G T M G L P F I G E T L O L I - - - - - L O R R K F I R M K R O K Y G - - - C I V Y T H L F G N P T / V R M A G D N V R I L G E H - K L V S V V O P A S V R T I L G I P G T P L P F L G N L S Y H K G F C M - - - - - F D M E C H K K Y G K V W G F Y D G O - - - C P V L A I T D P D M I K L V L V K C E Y S V F T N R E P F G P V G F P - - P G F I m o P - I G e l q f i k - - - p g d F k e r v - y G - - - i y k - h f g e p t / s - d a e l n r f / l - n e g - k i l - c - - P a s - - g

**PROLINE**

160 L G K H S M V L V G D M H R D M A S I S L N F L S H A R I R T I L K K D V E R H T I F V D S H - . . . . .  
 170 L G K H S M V L V G D M H R D M A S I S L N F L S H A R I R T I L K K D V E R H T I F V D S H - . . . . .  
 180 L G K H S M V L V G D M H R D M A S I S L N F L S H A R I R T I L K K D V E R H T I F V D S H - . . . . .  
 190 L G K H S M V L V G D M H R D M A S I S L N F L S H A R I R T I L K K D V E R H T I F V D S H - . . . . .  
 200 L G K H S M V L V G D M H R D M A S I S L N F L S H A R I R T I L K K D V E R H T I F V D S H - . . . . .  
 210 L G K H S M V L V G D M H R D M A S I S L N F L S H A R I R T I L K K D V E R H T I F V D S H - . . . . .  
 220 L G K H S M V L V G D M H R D M A S I S L N F L S H A R I R T I L K K D V E R H T I F V D S H - . . . . .  
 230 L G K H S M V L V G D M H R D M A S I S L N F L S H A R I R T I L K K D V E R H T I F V D S H - . . . . .  
 240 L G K H S M V L V G D M H R D M A S I S L N F L S H A R I R T I L K K D V E R H T I F V D S H - . . . . .

Domain A

Domain B

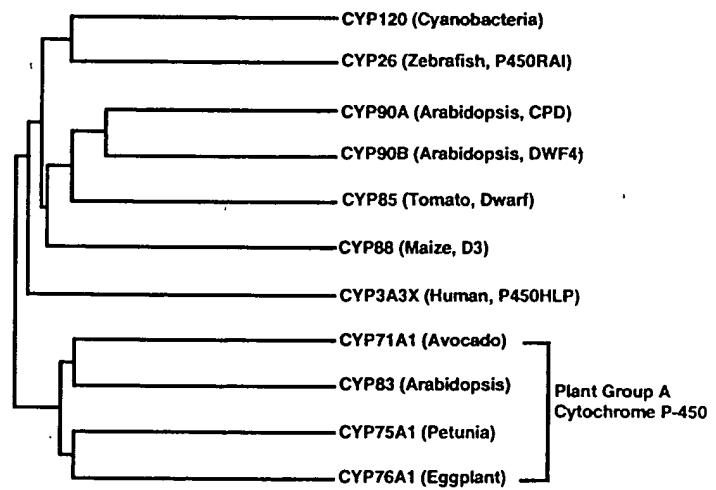
## Domain G

XXX

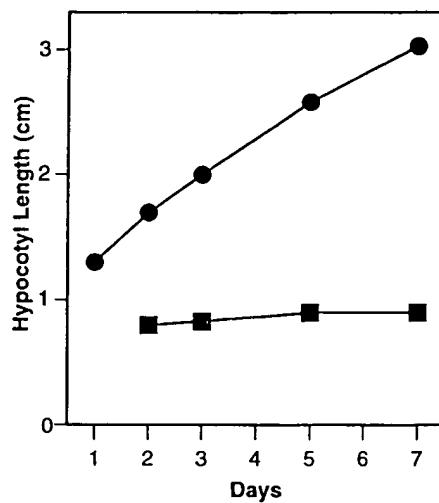
510            520            530            540            550            560            570  
 WG[MNYM[PFGGGGPRLCAGSELAKLEMAYVIFIMHLIVLKFANMELA[EDD]-OPFA[F]FVDFPNGLP/[RVS[R]I[L-  
 -MVFTPFGGGGPRLCAGSELAKLEMAYVIFIMHLIVLKFANMELA[EDD]-KLV[F]FFPTTRTOKRYPJ/FVKDRDFAT-  
 -FLVTPFGGGGTRCPGKGELGA[VEISTEFLHMFYTVKTYRWEETI[GDD]-ELIVVTPSPRPKDNLRVH[HS]M-[  
 -AHVPDFFGGGGRLREC[ALMKEFARLEMKLFATRMLQO[DWTLLPGONL-ELIVVTPSPRPKDNLRVH[HS]M-[  
 RAGTFLA[FG]GARLICRGNDLAKLEISVFCHHFLLGKYKLART[NPRC]-RVRYLPHPRVDNCLAK[TRVGS-[  
 -NYIPGGGSRSRMCGVKGKEFAKVLLKIELVELTOHOMNLISNGPP-TMKTGPTI[YPVDPNEPPTKFTSYVRN-  
 -YIYT[FGGGSRSRNCI[GMRFAALMMNMLKAIRVLQLNSFKPKCETOIPLKLSSLGGLLQPEKPVVLKYESRDGTVSGA-  
 -D[GgGpRI[CgK[elklem-vlhrlvq-f-wela-d-kiv-fpt-rp-dnlpikv-rd-

ALICE BASKETT

FIG. 3



*FIG. 4*



*FIG. 5*

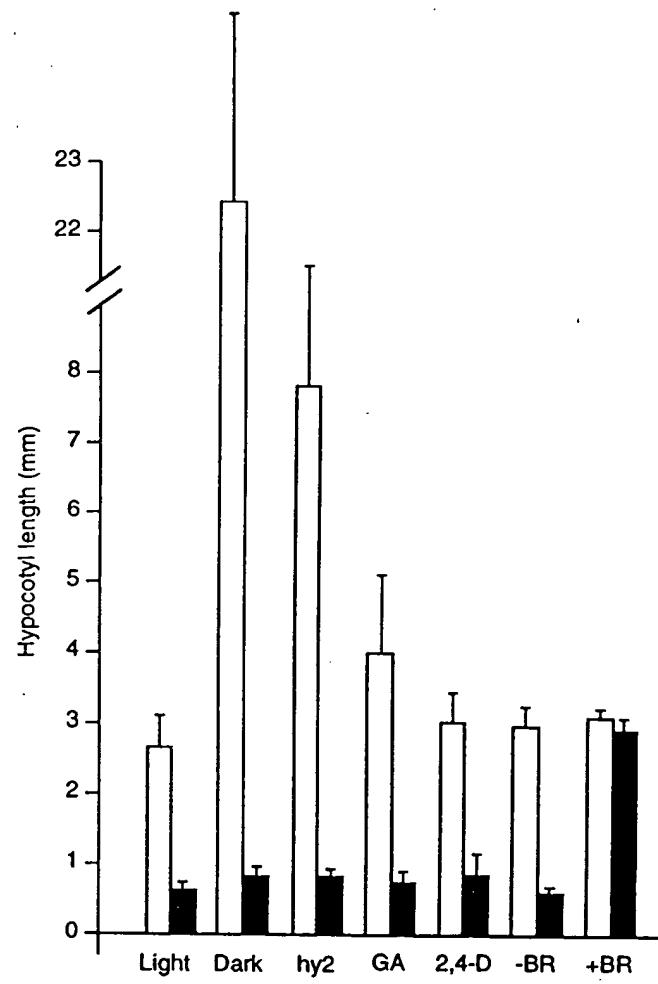


FIG. 6

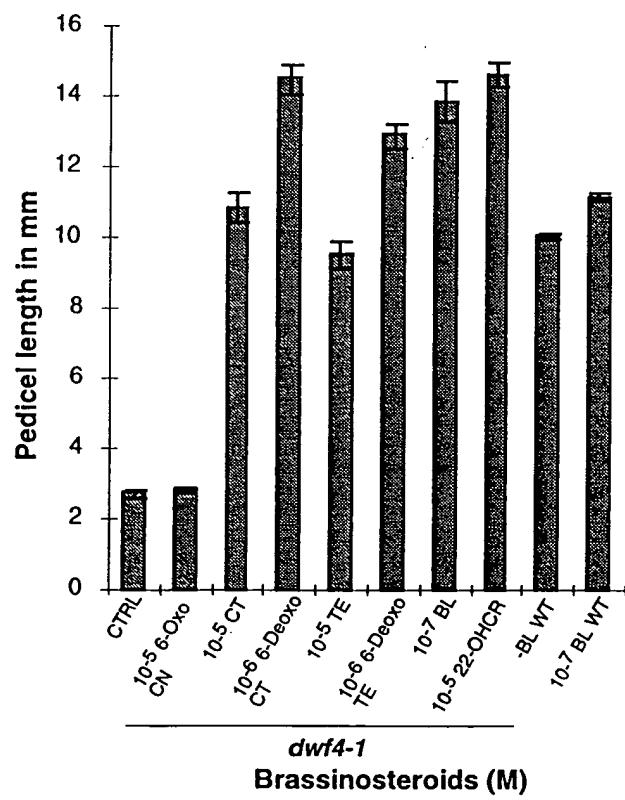


FIG. 7

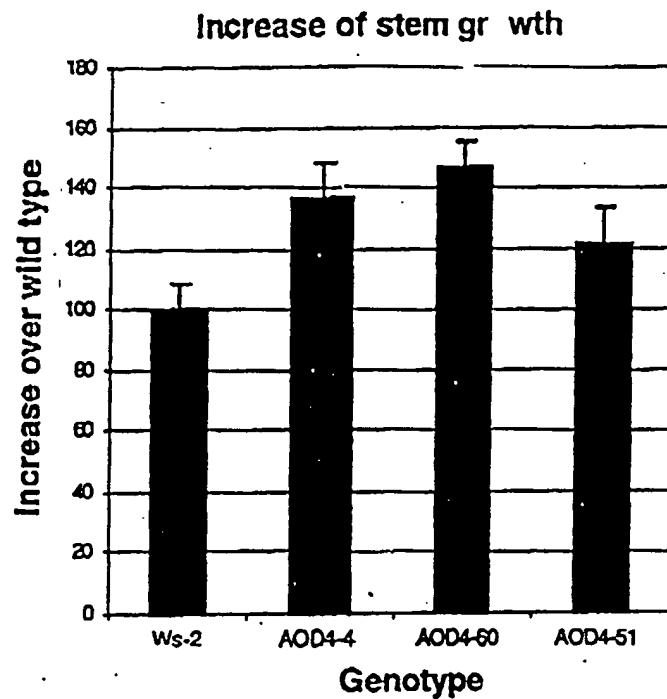
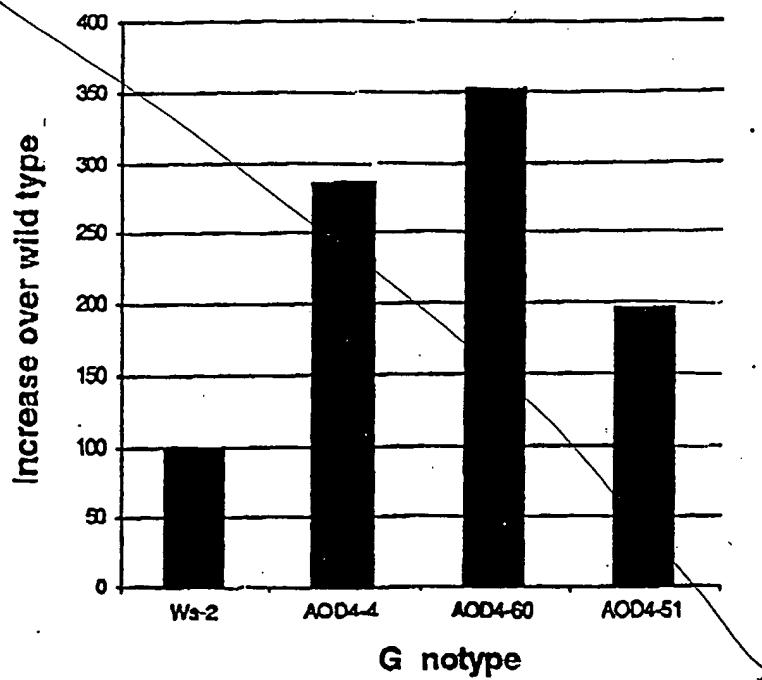


FIG. 8

Increased seed production due to DWF4 overexpression



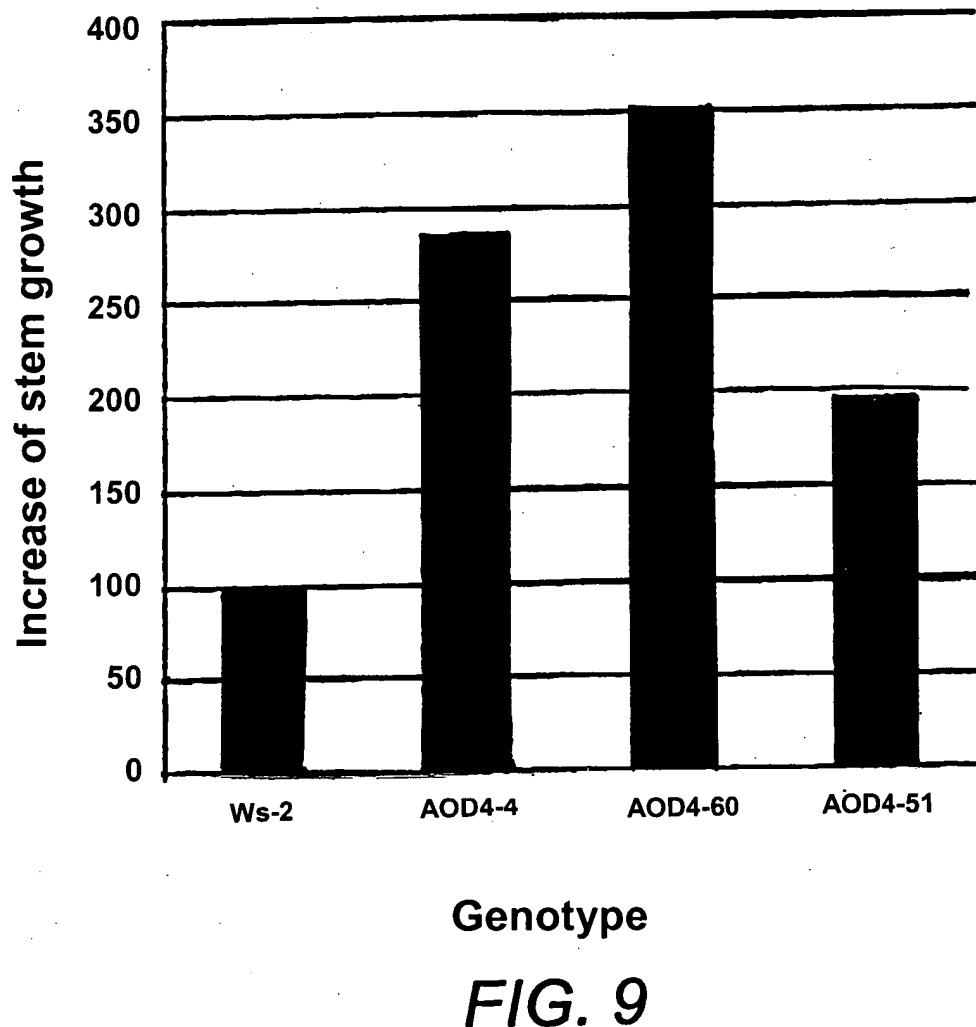
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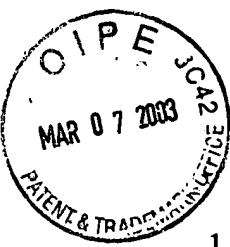
FIG. 9



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### Increased seed production due to DWF4 overexpression





1 ATGTGGGTATTATATTGTTGGGTCGGTTGAGCTACAATATAAATTCTGTCTGGT 60  
61 TATTCTGTTCACATGATTGAGTTGGTTCTCAATTGGATTCCAAGATAATTAAATATT 120  
121 AAAATTCAATTAAAATATTACAAGTAATTATTACATTGTATTGTTATAACAA 180  
181 AATATCTATCTTGGTATATGAGAAAATATGGAGTTGGAATTATAATAATAAGGAAA 240  
241 TAATCGATTCCATTGGTGGATTACACAGTTAACAGTTAGTTGTGTTCTTGTTATGT 300  
301 ATATGAGTAAATCAAAAAGAGTATTGATTGAAGTGTAAACATATTCTGTATGACCCCCA 360  
361 AAAAAAAAACAAACAAACAAACCCCCCCCCGATATAGTTTGGTTCTGGATT 420  
421 AGGTTTATTGATCATAATTACATGCATCATTTCTTGATTACTATGAAGATTCTTAC 480  
481 CAATTAAAATTCTGAATTCATATCTCTTGATTATTAAATTAAACGAGTGTGAATATCC 540  
541 GTTTATCGATCACTCCAATCATGATTATGATTCTGTGCTAACAGCAAATTATAACA 600  
601 AGAGTATTGAGAAAAACGAAAATAAGAAAAGGGAAAGAGTAGTGACCCATGGAGTATG 660  
661 TGAATAATTATCAAAGAGAATAAGAGATGACAACCAAAAGGTGTGGAATAATGGTCCCT 720  
721 GCCAGTTCTCTCACAAATCAATATCGACCCATTGGATTCTGGATATTCTGTTAAAA 780  
781 TTTGCGATAACGATTGTAAAAATATTATTGTTAGCTGATCTCAATTATGTTCCA 840  
841 GGTATTGCATAATCTCTGTTAAAGCATATTGTCTTTGTTCTGTTCTCT 900  
901 TAACTATATATTATCGCGGATATATGATAACAATGATATATCACAAAACAATTGTCTGGG 960  
961 ACCATTITGAATAAAACTTTCTCAAACATTACGGGACACTGGACTCGACCCTAAAATA 1020

**FIG 10A**



1021 CGATTTACAGCGTCACTAGTTGAGATTACTAGCATAAAGCATAAAGGACCCGTTCAAGC 1080

1081 TATTTATACAAAGTTACAAACTGAATATAGCTTGAAATCCTTAGAAAATTTGGAATTA 1140

1141 CCGGTTGTTATGTAAATATAGATTTAGGGTAAACAAATATGTTAACATTAGTGGTCA 1200

1201 ACATATACATAATTCTTACAGAAAAACAAACTTAAGAGAAGTTAACATATCCATATAT 1260

1261 GGGTATGCTATACCTTCACGTATGCTACTAGAGACTAAAGAATAGTTATGTGATGTC 1320

1321 GATAAATGAAATTCACACCGTGGTAATAATTATGGGACCGTATGTTACGATCACTGCAA 1380

1381 ATATCATTCTGGTGGTCAACAATAAAAACAAGAAAAAGAAAAACGATTTT 1440

1441 CTTGGATTCCATTCAATGATCTAAATGCATAGATCTTGGTTACAGTTCGAAGTCC 1500

1501 TCTACAAGCGTGTAAACCCTGCAACTATTAAATTGCTTCTTAATGCATTTAACAT 1560

1561 ATTTATTGTTAGTTGGAATTAAATAAGAGCGAACCTGTAACATTACAATATTATATTAG 1620

1621 ATACTAGTATGTGATTATTCAAATACATACTTGGATGTTAAACTTAATCTGTTCT 1680

1681 TCCTACGGTATAAATATTAATCGAGGTAAAAAGTTTGTCTTATTCGCGATGC 1740

1741 ATGAAGGATAAACCTAATGACTTAATTTTGAAAATGTAACCCTTACTCATAGATT 1800

1801 AATTACCGTATGTTTGTGCCATAATGACAGCCTCTACAACTGTGATAGTCATTTT 1860

1861 TCTGCAAATATTAATTAGGAATTCAATGCTACTATCAATAGAACAGCTGAGTATT 1920

1921 ACATTTAATTAAAGACAAATTTGAAAATGTTATAATTCTAACATATTATAA 1980

1981 AATATGATGCCTATAATGTATTCTATGTTCTAAAATATTTTTTATATTAGTTA 2040

2041 TAAATACATTATGAACCAATAATAGTTGGTGAATTCAAATCTCCATTAATATTTTG 2100

FIG 10B

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2101 AAATCTACAAATTATTAATTTAGTCATAACAATGCATAGAAAGTTCCAAAAAAAATT 2160

2161 TTGTTAACAGAAACTTCAAATTTTTTTATGGAACAAGAAATAACAGATAGAAAA 2220

2221 CTATTTGTTGGAATGGAAGTAGTAATACATTAAGCAAATTAAAAATTATATA 2280

2281 AGCCTATACGCGCTCAAAGTATGTTATCTAGTAGGTGTAATTATAATGCATGGTGCAT 2340

2341 TCAGAATTGGGACAACAATGAAAACGGAATTAAAATATTAACCTTAAAATAATAAAAT 2400

2401 TTGAGTAAATGTGTTCTGACTATTGAGGGCAAAAAAGACAATGCCAAAGTCTAC 2460

2461 GGGTTGACTGTCCAGTTCGTAATAATCTAATAACTCTGCTTGACCGCACGCTCGTG 2520

2521 TAGGGGTCTTCTGACATTTCACTGTTCTACCCCTACTCGTGAGCCCACCCTTTCCA 2580

2581 TATCCTAAGGTAATTTGAAATCCAATTAAACCGATTGAGACCGTACCGGACTTCC 2640

2641 TGGGATTCTGCTGGAGCATTATCAAAAATTATTAGCACGAATGGTTATTAAATTAAA 2700

2701 AACTCACAACTTGATCAGATAAAATTCTAAACACTTTACGATGGATTGTACGATCT 2760

2761 ATCTAATGACTTTCTACCAACGGTGGATGAAAGTATAGTACTATTAGCCAGAG 2820

2821 ACAATTGATTATAGATATCCATTAAATCCATGATATTATGATATAAATAGCTGTTAAA 2880

2881 CTATTCAGCATCGCAGCTTCTGCAACTTTGTTTAATTAAAGAGTTAATAAAATAA 2940

2941 AAGTATTAAAAGGAGCATAACGAGGCAACAAAGTAATGAACACGGAGAAACAAAGCCA 3000

3001 TGAAGCTCATTGGTTAGTTAAGCTTAATAAGAAGATTATTAAATTAAATGACGATG 3060

3061 ATAACAATTATTTCTGACTCTTAAAACCCCTCTTACAAACAGAAGCTCCCTTT 3120

3121 TCAGTAGAAGTCCGATTCCAATCTAAAGACAAAGCCATTAGAAAGAGAAAGTGA 3180

FIG 10C

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3181 GAGAGAGAGAGAAACTAGCTCATGTCGAAACAGAGCATCATACTCTTACCTCTTCT 3240

*Exon 1*

3241 TCTTCTCCCATCGCTTTGTCTCTTCTCTTCTGATTCTCTTGAAGAGAAGAAATAG 3300

3301 AAAAACAGATTCAATCTACCTCCGGTAAATCCGGTGGCCATTCTTGGTCAAACCAT 3360

3361 CGGTTATCTAACCGTACACCGCCACAACACTCGGTGACTTCATGCAACAAACATGTCTC 3420

3421 CAAGTAAACAACAACATCTCCAAAAACTCAAAAAAATAATCCTCTGTTTGAAATT 3480

3481 GACTAATGTTGTTATTTACAGGTATGGTAAGATATAGATCGAACITGTTGGAGAA 3540

*Exon 2*

3541 CCAACGATCGTATCAGCTGATGCTGGACTTAATAGATTATATTACAAAACGAAGGAAGG 3600

3601 CTCTTGAAATGTTAGTTATCCTAGAAGTATAGGTGGGATTCTGGAAATGGTCGATGCTT 3660

3661 GTTCTTGTGGTGACATGCATAGAGATATGAGAAGTATCTCGCTTAACCTCTTAAGTCAC 3720

3721 GCACGTCTAGAACTATTCTACTTAAAGATGTTGAGAGACATACTTGTGTTCTGAT 3780

3781 TCTGGCAACAAAACCTATTTCTGCTCAAGACGAGGCCAAAAGGTTTTATTTT 3840

3841 ATCTTTATTTGCTAAATTTTGTATGAATCTTAGAGTTCTAACCTTTTTT 3900

3901 TTTAATTGAAACAGTTACGTTAATCTAATGGCGAAGCATATAATGAGTATGGATCCTGG 3960

3961 AGAAGAAGAAACAGAGCAATTAAAGAAAGAGTATGTAACCTTCATGAAAGGAGTTGTCTC 4020

4021 TGCTCCTCTAAATCTACCAGGAACGTGCTTATCATAAGCTCTCAGGTACATTATTTT 4080

4081 TTTGCTGAAAGTCACAAACTCTCATTAGGTTTAATTTATTTATGTGTTAAAT 4140

4141 AAAATATCTAAAATGGTTGTAGTCACGAGCAACGATATTGAAGTTCAAGAGAGGAAA 4200

4201 ATGGAAGAGAGAAAATTGGATATCAAGGAAGAAGATCAAGAAGAAGAAGTAAAACA 4260

**FIG 10D**

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4261 GAGGATGAAGCAGAGATGAGTAAGAGTGATCATGTTAGGAAACAAAGAACAGACGATGAT 4320  
 [REDACTED]

4321 CTTTGGGATGGGTTTGAAACATTGAAATTATCGACGGAGCAAATTCTCGATCTCATT 4380  
 [REDACTED]

4381 CTTAGTTGTTATTGCCGGACATGAGAcTTCTCTGTAGCCATTGCTCTCGCTATCTTC 4440  
 [REDACTED]

4441 TTCTTGCAAGCTTGCCCTAAAGCCGTTGAAGAGCTTAGGTAAGATAATTATAACAGCAC 4500  
 [REDACTED]

4501 AAGTTAATTACTACCAAATTGTTACGTATTATATAAGTTATTATAGAATTATTCTIATTAG 4560

4561 AATATAACGATGAAAAAAAGTATGTATTTAATTGTCACTAATTTATGTTATTGATTIA 4620

4621 TACTTTGAAGGAAGAGCATCTTGAGATCgCGAGGGCCAAGAAGGAACTAGGAGAGTCAG 4680  
 [REDACTED]

4681 AATTAAATTGGGATGATTACAAGAAAATGGACTTTACTCAATGTGTATGTTACTATCATT 4740  
 [REDACTED]

4741 CTCATTATTATTCTATGTCATATGATTATGATGAAACCAAAATTATTGATTTTTT 4800

4801 TTGGTGTGTGAAGGTTATAATGAAACTCTCGATTGGAAATGTAGTTAGGTTTTG 4860  
 [REDACTED]

4861 CATCGCAAAGCACTCAAAGATGTCGGTACAAAGGTAAAACCTTACGTACAAAATTTTA 4920  
 [REDACTED]

4921 AATAATGAAATCCGGAATTGAAATCTTATTGGATGAAAAATTAAAATAATTACAT 4980

4981 TTCTTAATGTTGGAAAAAAGGATACGATACTCCCTAGTGGGTGGAAAGTGTACCGGTGAT 5040  
 [REDACTED]

5041 CTCAGCCGTACATTGGATAATTCTCGTTATGACCAACCTAATCTTTAATCCTGGAG 5100  
 [REDACTED]

5101 ATGGCAACAGGTAAATAAAAGTTCTCGTTAACTATCGAAAATTAGTGTATAGTTT 5160  
 [REDACTED]

5161 TTCATCTATTGCATGAATAGATACGTCTACGTGATTACCTATCTATAGATACTATACG 5220

5221 AGAACTATTAATCTGGCAAAAACTTTTATTATTATCTTCAAGTTAGATCTTAACA 5280

5281 CGTCATGGATCATTGATCACATGAAAGCATATAAATTAAAAATAAGAGAGAGAAAGAGAC 5340



6341 GTGTTGGTGTAAAGTGTACGTGAAGACAATTAAATTAGTAGGATGGTATGTCTTAATGACG 5400

5401 TAGGAGCTGCCTAAATATTCTTATAATCGTGACCGTTGATTATTAGTCACGGCTT 5460

5461 GATACAATTAAAGATTGACGGACGATGGTACCGCCACGGCTTGACGGATCTCACACGCCCG 5520

5521 ATGACTTGTACGTGCGTTAGATTCTGCCACGTTGACTGGTTAATACTTAGATTATAA 5580

5581 CTCTATTAAATTATAACAACATCAAATCGCGAATTAGAGAAAATACTATAGTATTAA 5640

5641 TTATGATTATTATGAGATAATACTTATGAAATAAGATAATAATGGTAGTCATGATGTTA 5700

5701 TAGTGAGTGGGAAGGTAAGAGGTGGTGGAGAGATGATTAATGACCCCACGTGGTGTGGTG 5760

5761 CCAACAAGCACGTGTTCTTCCTTTCTTCCAACTTCTTTGGGGTTATT 5820

5821 GTGATTATAAAATCGGTTGTCGTTTTGTGACGAGCAGCAAAACACGGAGCGT 5880

exon 8

5881 CATCGTCAGGAAGTGGTAGTTTCGACGTGGGAAACAACACTACATGCCGTTGGAGGAG 5940

5941 GGCCAAGGCTATGTGCTGGTCAGAGCTAGCCAAGTTAGAAATGGCAGTGTATTACATC 6000

6001 ATCTAGTTCTAAATTCAATTGGATTAGCAGAAGATGATCAACCATTGCTTCCCTT 6060

6061 TTGTTGATTTCCTAACGGTTGCCTATTAGGGTTCTGTATTCTGTAAAAAAAAAAAAA 6120

6121 AGATGAAAGTATTTTATTCTCTTTTTGATAATTAAATCATTTTTGC 6180

6181 CCAATGATATATAAAAATTGGATAAATAATATTATTGGATATTGTTTTAGTCGGG 6240

6241 TTTGAGAAAAGGGTTCGACTTCGAAAGTGGACGATGTATAGATTGGAGCTAGGTT 6300

6301 GAGTCTTGGACATTGTATTGGATGTTGTTGATTATTAGTGTGACACTATTAAACCTT 6360

6361 AAATGGGCTTCTATAAGGCCAATTATATTACGATTATAACAAAGTGACAACCTTACT 6420

FIG 10F

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Substitute Figure 10G  
DWF4 POLYNUCLEOTIDES, POLYPEPTIDES AND USES THEREOF  
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6421 TCGTTTTGATCCGAAGCAATAACAAATTGTCAAATACCAAACACAAGAATTATGTAAAC 6480

6481 ACTCGTGTGTCTAGGGAAATCATTGGCTGGAGACTGAACATCAGAACACAAGAAA 6540

6541 CCTGTCAATTATGGATACACCTCCTATGACGGTTCCAAACTTATCTGATTCTATCG 6600

6601 TGTTACATTGACACAAAGAGTTAGGTGTCAAAAGGACTAAATGAATAACAATAGCTCTCA 6660

6661 GGATAAGAAGGTTCATAAAATGGTTCTTATTTGAGAAGAAAGAGAGAGGGAGCTTTA 6720

6721 CTGTTCTGGTCCTATTCTTAAATGAGAGGGTTCTTTACTCTCTATCTCA 6780

6781 TCATCTTAGGATCCTCTTAGACGAGTAAAGTAATCCTCGTTACCAAGCAATGGTCTC 6840

6841 ATCTTTGAAGACAGGTCTTCCAAGTCCTAGTCAGGCCAAGCTT 6888

FIG 10G

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1 MFETEHHTLL PLLLPSLLS LLLFLILLKR RNRKTRFNLP PGKSGWPFLG ETIGYLKPYT  
61 ATTLGDFMQQ HVSKYGIYR SNLFGEPTIV SADAGLNRFI LQNEGRLFEC SYPRSIGGIL  
121 GKWSMLVLVG DMHRDMRSIS LNFLSHARLR TILLKDVERH TLFVLDSWQQ NSIFSAQDEA  
181 KKFTFNLMAK HIMSMDPGEE ETEQLKEYV TFMKGVVVSAP LNLPGTAYHK ALQSRATILK  
241 FIERKMEERK LDIKEEDQEE EEVKTEDEAE MSKSDHVRKQ RTDDDLLGWV LKHSNLSTEQ  
301 ILDLILSLLF AGHETSSVAI ALAIFFLQAC PKAVEELREE HLEIARAKKE LGESELNWDD  
361 YKKMDFTQCV INETLRLGNV VRFLHRKALK DVRYKGYDIP SGWKVLPVIS AVHLDNSRYD  
421 QPNLFNPWRW QQQNNGASSS GSGSFSTWGN NYMPFGGGPR LCAGSELAKL EMAVFIHHLV  
481 LKFNWELAED DQPFAFPFVD FPNGLPIRVS RIL

FIG. 11

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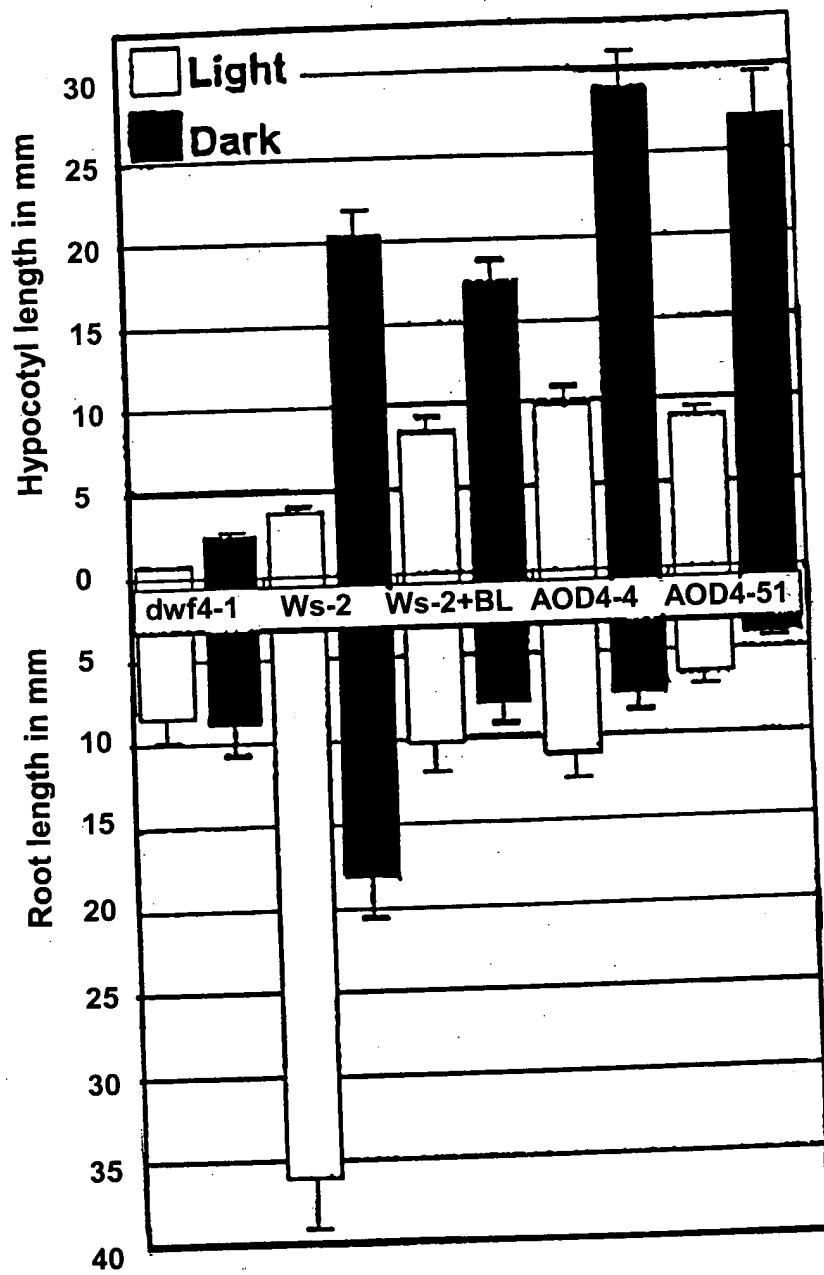


FIG. 12

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